ABSTRACT

All-Optical logic can avoid expensive demultiplexing back to electronics in telecommunications. The term all-optical is used to described processing in which all signal paths are optical whether used for control or information.

5   Semiconductor optical amplifiers (SOAs) can perform all optical logic because they have nonlinearity, low latency, and require low power. We use highly accurate computer models to simulate and evaluate NOR and NXOR logic gates using SOAs. These elements can act as building blocks for advanced logic systems. For example, in previous publications we described an approach to

10   constructing arithmetic units form optical logic elements.

Title: "Optical Logic Gates Using Semiconductor Optical Amplifiers"
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